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UCLA/CAL OSHA

| SPEAKER | COMMENTS |
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| Aplin | MSB 4221 Investigation, Thursday, February 5, 2009, present in the room, Dr. Patrick Harran, Assistant Fire Marshal Steve Girato and myself, Deputy Fire Marshal 2, Joel Aplin. We're at Dr. Harran's office at MSB, 5505 A. Time is approximately 0910 hours and we'll start off with – Dr. Harran, could you spell your last name for us? |
| Harran | Yes, it's H-A-R-R-A-N. |
| Aplin | Okay. And your title here at UCLA? |
| Harran | The Donald Cram Chair of Organic Chemistry. I'm a full professor of chemistry – in biochemistry. |
| Aplin | Okay. I believe you're here on a named endowment? |
| Harran | Yes. Exactly. |
| Aplin | Donald Cram? |
| Harran | Donald Cram, yeah. |
| Aplin | Okay. Your duties here at UCLA? |
| Harran | Teaching and research. |
| Aplin | Okay. When were you hired here at UCLA? |
| Harran | July 1, 2008. |
| Aplin | Okay. And let me back up for a second. You see the recorder sitting on the table? |
| Harran | Mmmhmm. |
| Aplin | Can you tell me what that says on the back? Can you read it? |
| Harran | Yes, it's staff number 403. |
| Aplin | Okay, thank you. How many subordinates do you have? |
| Harran | Currently, I think nine. |
| Aplin | Nine? |

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ORIGINAL

SPEAKER

COMMENTS

Harran

Yes.

Aplin

And who hires your staff?

Harran

I do.

Aplin

You interview and hire all of them?

Harran

Yes, I do.

Aplin

Okay. Training for employees. Let's talk about that. Who is responsible for the training of your nine subordinates?

Harran

In which areas now, so—?

Aplin

Safety.

Harran

As it relates to safety, so I am predominantly, although since this incident has occurred, the Department has now instituted lots of additional standardized training protocols. I believe in the past the departmental policy was a little different from if you were a graduate student, say, or if you were a postdoctoral fellow or if you were staff. It's like — when Chari joined us, I'm not sure she went through a formalized safety training. Although in Chari's case, she was doing protocols, procedures in the laboratory with which she was very familiar. My senior personnel had shown her how to do these things and her previous experience in school and research had also prepared her for that.

Aplin

Okay. Let's see. Would you or somebody under you document the training?

Harran

We hadn't up to that point. We're just getting settled in. We're still in temporary space on the 4th floor. And so I have a student — his name is — he's now our group safety officer and he documents now, all new folks that come into the laboratory and which training they receive.

Aplin

When you took possession of Lab 4221 —

Harran

Yes —

Aplin

Was it already stocked with chemicals or was it pristine and you stocked it yourself, or —

Harran

We stocked it ourselves. It had been emptied for us.

SPEAKER

COMMENTS

Aplin

Okay. Okay. We realize that there's a lot of turnover with staff and faculty here at UCLA. Is it possible that -- how do we say her last name, Sanji?

Harran

I think so. Charibhano Sanji.

Aplin

Okay. Is it possible that she was scheduled for training and just hadn't received it yet?

Harran

I'm not sure. I don't know the answer to that.

Aplin

Okay.

Harran

Again, as I say, we work with so many different chemicals, because we're a chemistry lab -- we literally have thousands of varied specialized reagents and designer chemicals that we use for our purposes and so training in each individual one I think would be impractical, although *classes* of materials we certainly familiarize each other, mainly in the lab, with what is proper handling procedures.

Aplin

Specifically regarding pyrophorics, is there any documentation you might have that she had received that kind of training?

Harran

Signed documentation, no. She was trained -- she had previously used reagents of that type -- I believe in her undergraduate work, but certainly here she had trained with a postdoctoral fellow who had done that particular procedure multiple times and she herself had executed it successfully, I think three times, previously.

Aplin

Okay.

Harran

And so she was aware of the potential hazards, I believe.

Aplin

Okay. And that is something that we'll explore here in just a couple of moments. Are there -- do you have a standard operating procedure published for handling pyrophorics -- this is a question I know Cal/OSHA might have asked before.

Harran

Yeah. We ourselves don't, but for example the pyrophorics that we use are commercially available. They come in containers designed for certain types of transfer and we use the published technical bulletins for those containers, and those bulletins give a very detailed description of the transfer techniques we use and you have to, obviously, avoid contact with the atmosphere and oxygen and water and -- so we use those protocols -- now, we

SPEAKER

COMMENTS

don't refer to them every time once someone gets familiar with them, but they're available.

Aplin

Okay. And I have the 8-page document that [Aldrich] published --

Harran

That's what I'm referring to, yeah.

Aplin

And we can explore that here in a moment.

Harran

Okay.

Aplin

Can you tell me why she was on campus during shutdown? UCLA has a shutdown period of time towards the end of the year -- turn of the year -- and all personnel are supposed to be off campus unless you are critical or central, and we are wondering why she was on campus during shutdown?

Harran

Oh, in research I think our vacation schedules may be a little different. I didn't realize there was some sort of mandatory -- I treated Chari like a student. You know, she was classified as a full-time employee, but she was part of the group just like a graduate student and we work year-round pretty much. I was here then and two of my postdoctoral fellows were here. We were treating it like a -- it was after the Christmas holiday -- it was the week after that.

Aplin

Did anybody from the Chemistry Department or any of your colleagues say "hey, listen, it's shutdown period, we need to be off campus"?

Harran

No. And I hope they don't institute that as a -- that would be bad.

Other

Well, during the Christmas period from a financially and energy conservation standpoint, they go to a minimum operation on campus here and consequently--

Harran

But I think the laboratories remain open and you can work.

Other

Dependent on specified approvals, if you will, alright?

Harran

I see.

Other

The labs need to contact the department heads to let them know, hey, we need to conduct such and such experiment -- we need to

SPEAKER

COMMENTS

make sure we maintain power and air conditioning in the building for this time frame for these particular days and then they make the arrangements through Facilities for those kinds of services and needs, but again the normal is that, unless it's a central operation during that shutdown period, people should be off campus and should not be conducting --

Harran

I see, I see.

Other

[] for a number of years now.

Aplin

What I have here is the 8-page cut-sheet, or guideline, if you will, from Aldrich.

Harran

Yes.

Aplin

Handling air sensitive reagents -- Technical Bulletin AL-134. Okay. On the night of December 29 after the accident, Los Angeles Fire Department investigators, which are sworn peace officers, went to Ronald Reagan Medical Center and interviewed Sanji.

Harran

Okay.

Aplin

And she gave a statement; the statement is legally binding, which means that the peace officers are allowed to take third-party hearsay testimony and admit it as evidence in a court.

Harran

Okay.

Aplin

In a portion of her statement, she clearly states that she pulled the plunger back too far -- the plunger came out of the syringe barrel, okay, exposing the product to atmosphere. The two methods that Aldrich have identified as the direct syringe withdrawal or using a double-tipped needle into your apparatus. Okay, the -- it recommends or it states that you have to use high purity nitrogen, okay, the nitrogen fills up -- creates a headspace that allows you to safely withdraw the product --

Harran

--without creating a vacuum.

Aplin

Exactly. She states in her statement to LAFD that she was pulling back the syringe and this specification clearly says that if you have got nitrogen in line or in use that you don't have to pull back. So, we're wondering if she used nitrogen in this procedure

SPEAKER

COMMENTS

because we didn't see any apparatus to suggest that.

Harran

Yes. We have -- our [hoods] are [plumbed] for dry nitrogen or argon -- I believe we were using nitrogen at the time. The tanks for those manifolds are in the chase -- in the central corridor and it's piped in. And so she was -- she was doing her -- the technique [] to me when I finished her experiment after the event, looked fine. The danger -- so what they're saying is, and I'm not a big fan of this -- they actually pressurized their system to push the material out.

Aplin

Correct.

Harran

I find that a little dangerous because then it can jump on you. So we use just static pressure of nitrogen and we use our own ability to pull and just let the nitrogen fill rather than have it drive it out, you know what I'm saying?

Aplin

I understand what you're saying. The --

Harran

Let me just say -- I wasn't in the lab -- so I didn't see exactly what happened, but as I was finishing the experiment, cleaning up, I did notice the syringe -- the main body of the syringe -- we found it melted on the desktop of the hood where she was doing the experiment. But the plunger was on the floor about 8 feet away and it was fully intact. So I surmise, and that's what I've said --

Other

Did you notice if there was any additional plumbing or piping or tubing that was --

Harran

Yes, that was all hooked up properly, so her experiment was under nitrogen at the time and -- now someone had -- so the bottle -- the butyllithium bottle, see, I just can't remember whether the butyllithium was still under nitrogen or whether it had been recapped. I don't know the answer to that.

Aplin

And the thing that we would expect to see and we have got before and after photographs, we'd be looking for some sort of apparatus to pressurize the bottle with nitrogen and --

Harran

That was there. So that's her manifold up there and then she has a bubbler --

Aplin

Okay.

SPEAKER

COMMENTS

Harran

And she could close off the bubbler to pressurize. But the bubbler was open, and so now remember, too, I finished the experiment and I cleaned up -- so I just -- and I put the tert-butyllithium away properly and --

Aplin

Okay . . . so this is what the manufacturer is recommending, and from your statement you refer to this as a guideline document for the procedure -- the issues that we have regarding this incident are that you should fill -- create a headspace using nitrogen, plunger should not be pulled back because it tends to cause leaks and create bubbles, and she states that she pulled it back --

Harran

Right --

Aplin

She pulled it back, right, and so there -- this -- we're just going off of what this says. This document says do not pull the plunger back and she said she did. Quickly transfer to the reaction apparatus by puncturing the rubber septum, so the problem or the question that arises by quickly transferring, you are removing your needle and going to your apparatus --

Harran

Yes.

Aplin

-- is that you have an open syringe with an open needle to the atmosphere and they are saying quickly move to the apparatus -- that raises a question of safety by exposing pyrophorics and again, this is their document, not yours --

Harran

But that is our standard protocol -- I've been doing it for 20 years and I've done that exact procedure hundreds of times and so what they're saying is the pyrophoric material at the very tip -- it will very quickly oxidize and actually forms a little crust almost instantaneously, so that will rarely, rarely burn. And so by the time you get it through your septum into your apparatus, that little crust then will fall away and then you can transfer your stuff into your flask.

Aplin

Sure. The Figure 9 here shows an 18-inch flex needle -- chemflex needle.

Harran

Yeah, we use shorter ones. You can use a whole variety of lengths and gauges -- diameters.

Aplin

Okay. So, just so I understand, the role of the nitrogen in the method that you prefer, it doesn't create a pressured headspace --

CONFIDENTIAL

ORIGINAL

SPEAKER

COMMENTS

it actually –

Harran

It's very mildly pressured. It's pressured to the extent that during the withdrawal that you constantly observe bubbling through your bubbler, so there's enough of a forward pressure to keep that bubbling going in addition to filling any space that you're evacuating by drawing the material into your syringe.

Aplin

Based upon your experience, the cut-sheet that we're looking at and Sanji's statement that she was pulling the plunger back and so far that it actually passed the control dimple and then what do you surmise happened?

Harran

Okay, so, and this comes from experience and so – sometimes – depends on the strength and the dexterity of the person, but, sometimes as you are removing reagents from these little bottles, you'll get down closer to the bottom and you're – you'll start pulling in some nitrogen into your syringe. Then you get a void space and she wanted to take a certain volume and she kept trying to get more and more and she probably just – she went past an advisable point and now pulling it out, and that's what drives me – that's hard to do. That is actually hard to get that out of there.

Aplin

And to me that suggests a vacuum. That she's pulling very hard against a vacuum inside of this bottle of [TB____] right?

Harran

See that's what I – that's a very good point. Now, what I didn't observe – I never looked. The manifold, I should – well, that's not going to help with the tape, but, the manifold is set up such that, so [sound of paper moving] here is the manifold and this would be your nitrogen in and then we have – these would be needles in tubing – and we have several lines because sometimes we may need several for an experiment, and then we have the bubbler. But we have the ability to close here on each one of these.

Other

You have a stop-cock valve.

Harran

Exactly. That's right. I don't know if the line she was using for the tert-butyllithium if she had that open at the time – now, she certainly should have.

Other

If that line was closed –

SPEAKER

COMMENTS

Harran

Then she would have a vacuum. Then she would be making a very strong vacuum and she'd be pulling against it.

Aplin

And that makes complete sense and that's what we were trying to determine -- we examined an exemplar syringe on the 30th when we met with you in the lab.

Harran

Yes.

Aplin

The 60 cc syringe, and so, I agree. It takes substantial force to get that plunger out of the barrel.

Other

Would, in fact, the bubbler continue to operate -- would each of these valves be shut?

Harran

Yeah, because the main line runs from the nitrogen line over to the bubbler.

Other

Okay, but if there's no movement of nitrogen, is my point, had each of these stop-cocks been in the closed position, would the bubbler still continue to have indicated a potential movement of nitrogen through the system, or would there have been a basically a dead end at that point.

Harran

The bubbler was open, so she should have been -- she could have been seeing the bubbling but not had this open.

Other

Not had the line open.

Harran

Yes, exactly.

Other

And so, could you do me a favor, Dr. Harran? Would you date and sign your diagram that you wrote for us and we'll include that in our report under Supplemental Materials.

Harran

Sure. February 5th, guys?

Others

Yes.

Other

The other question we had as you're writing there, reagent transfer with a double-tip needle?

Harran

Yes.

Other

She's using a 60 cc syringe in this situation, and Aldrich recommends that if you're gonna transfer 50 mls or more to use the double-tip method. And so, I don't know how much product

SPEAKER

COMMENTS

she was attempting to draw, but the 60 cc syringe would suggest she's going for a high volume.

Harran

It would suggest she was going for around 40 to 50 mills. I would imagine so. And so, and like I told you folks previously, I, I would have preferred that she had done the cannula technique, which is the double-tip needle. I use that often, because then there is, then you hit your [hoods] ashes down and the transfer occurs -- you know, you have no possibility for a contact and--

Other

Right.

Harran

And we do, we use both methods in the laboratory. I believe -- yeah, Paul had certainly done the cannulation technique. I don't know if she had done the cannulation technique previously, so she may have been repeating the procedure that she had done simply on a larger scale.

Other

And, and further down my list here, I do have some questions regarding her exposure to this procedure during her curricula at Cal Poly Pomona, you know. So we'll talk about that in a moment here.

Harran

Okay, all right.

Other

Okay, so we've covered that. Do you know if she was replicating an experiment, or was she working on something else?

Harran

She was replicating an experiment. She had done this exact procedure with the same substrates several times. She was making more of something that she had made previously.

Other

And she performed this on campus here?

Harran

Yes.

Other

Okay.

Other

You indicated that after the incident, you cleaned up the, or you completed the experiment. If she was replicating a previous evolution or procedure, is that same procedure done -- the method that she was using, done with the same method that she was using?

CONFIDENTIAL

ORIGINAL

SPEAKER

COMMENTS

Harran

Same method, same method.

Other

So, so the question would be then, the assumption from my standpoint would be then that using the syringe in the manner that she was using it would have replicated the same types of procedure, same types of negative effects that she was dealing with as far as the syringe?

Harran

Ah, no. I mean, if there is, if there is the ability to fill backfill with nitrogen, these procedures work very smoothly. I mean, they work very, very well actually.

Other

Okay. Uh, in her statement here, she—

Harran

Oh, there's one other thing about this. So, so it's possible she had her line closed, but from what I could gather from her laboratory notebook and looking at things in her hood at the time, she had done a substantial part of the procedure already. She had titrated her alcu-lithium, which is great procedure, and I'm presuming she's drawing the same t-butyllithium to do that, and she had already added a portion to her main reaction flask, so — and that had occurred successfully, so—

Other

Okay.

Harran

Okay.

Other

So at this point, it's unknown if that stock cock valve was closed.

Harran

By me, it's unknown. That's right.

Other

And, so, okay, one of the bullet points from the LAFD investigators' interview with Sanji, she stated there was a chemical called hexane solution that spilled on her clothes and ignited and caused her clothes to catch fire. The question that we have here is, does hexane play a role at all in what she was doing?

Harran

It turns out it was pentane, but it's, it's very, very similar. Yes. You know, those are low-boiling hydrocarbons. They burn. But they burn very rapidly, and so I would imagine that the pentane flamed within seconds — two or three seconds — and then it was the clothing that was burning at that point.

CONFIDENTIAL

ORIGINAL

SPEAKER

COMMENTS

Other

And that's, I'm glad you cleared that up for us, because there was, "was it pentane or was it hexane?" And we were just going off of her statement to the investigators.

Harran

You can buy it in both, and that's, and I think initially I said it was hexane, because we normally get it in hexane. The solution she was using was a 1.7 molar solution in pentane.

Other

Right. But uh, but she's, so we're not talking about the, the tert-butyllithium with the sealed septum on top. We're talking about a container that actually spilled onto her. That's her, that's her statement. If you'll take a look, just the last bullet point.

Harran

That's the first I've heard of that.

Other

Right, and that's what we're trying to clear up is—

Harran

Doesn't she mean the solution she was transferring?

Other

No, sir. Her statement clearly states that there was a — spilled onto her clothes, that there was a container of hexane. She named it, she talked about that it spilled on her clothes and ignited. And, and that leads me to ask another question regarding hood safety. Would you ever have an open, flammable, liquid container in a hood—

Harran

I certainly would hope no. Uh, no.

Other

And so—

Harran

But I didn't observe — I just, I don't know personally. No one has mentioned that to me, like Wei Fung or Wei Ding, uh—

Other

Right. And that, and this is, this is critical because—

Harran

It is, 'cause that could have made it a lot worse.

Other

Yes. And, and, and I, I, you know, pyrophoric, you withdraw the needle, you have an accident, you're gonna have a very robust, you know, fireball.

Harran

And that'll make it worse.

Other

And, and, so, but she's very specific to LAFD that she spilled it on her clothing. Hexane, on her clothing, and that caused it to catch fire. Her, her burns at the time that she was assessed at the

SPEAKER

COMMENTS

hospital identify circumferential torso burns. You won't have, I don't believe you would have those types of burns with a pyrophoric flash. Maybe—

Harran

No, no, definitely not. That's, and that's, when I got into the lab and she was on the floor, sitting, her clothing had burned off her. And I saw her, saw her that morning, and she had like a, a sweatshirt or something on, and it was burned all off through here and up here. Her breasts were still covered. She had like a spandex sports bra or something on. And uh, but you could see, she was already getting blisters in her torso area.

Other

All right. So that's, that's a key part of this investigation is trying to figure out what is she, what, was she using hexane, is that part of the procedure that she was performing, or was it just something that she did not remove from the hood. You know, those are issues that we're, have yet to resolve.

Harran

Resolve. Yeah, I don't know the answer to those. I know the reaction that she was doing I believe was done in diethyl ether.

Other

I remember seeing—

Harran

And that's very flammable as well. But that was in the contained reaction vessel, and that was intact when I got there later.

Other

Okay.

Harran

And, uh, I didn't see any hexanes or—

Other

Right. And so, that's, that's one of the issues.

Harran

So she said it started on fire and then she spilled more hexane on her?

Other

Uh, the, the sequence of events is that, the bullet above it — she — this is from the LAFD report: She pulled the plunger out too far. The plunger came out of the housing of the syringe, and the chemicals spilled out and flashed. She stated the chemical would spontaneously ignite if it combines with air. The next bullet point, she further stated there was also a chemical called hexane solution that is very flammable that spilled on her clothes that also ignited and caused her clothes to catch fire. She further—

SPEAKER

COMMENTS

Harran

So she had a, maybe a bottle of hexane next to her, and she panicked and knocked it on?

Other

I don't know if she panicked, but she clearly identifies in one bullet point she's using a product in a syringe, in another bullet point she's spilling a specific chemical onto her clothes that ignited and caused the clothes to catch fire. So that's, we're trying - and, and-

Harran

So that's the first I've heard that, and so-

Other

In our investigation, we've consulted with some other chemists, and what we have been told is that it's standard procedure for hood safety to assess what you have in there, remove any unidentified or uncapped chemicals that aren't gonna be, you know, a part of your procedure-

Harran

Right, right.

Other

-and so, we're wondering how this got in there. And, uh, she was the one working at the hood, so we can, obviously can't go back and ask her.

Harran

Right, exactly.

Other

But that's what she's identified to the peace officers.

Harran

I'm sorry, guys. I don't know the answer to that, and, uh - now there was no, there was no broken bottle in the laboratory, meaning if she had knocked it over, it may have broken. And there was no, there was no hexane bottles in the hood, but I, I can't be sure of that. I mean, I-

Other

Is that, uh, hexane's a hydrocarbon. It can go in metal, plastic, or glass, right?

Harran

Well, you keep 'em in glass.

Other

Um, the photos that we have of the investigation from the 30th, I recall seeing four or five glass flasks on the left side of the hood that were unmarked.

Harran

Those were her titration reactions.

Other

Okay. They were open, there was no stopper in it, and they were

SPEAKER

COMMENTS

unmarked?

Harran

Yes, so she had finished the titration and they were done. And I had actually quenched those that night, the night of the 29th. If there was any active alcu-lithium in there, I wanted to make sure it was quenched. But that wasn't hexane.

Other

Right. Is it possible that she might have had a glass flask of hexane unmarked?

Harran

Yeah, I mean -- well, not those ones, no. But other, if there was other ones there, it could have been.

Other

Okay, And based upon the evidence that we have, we are considering the possibility that she did flinch and the product spilled -- you know, tipped it over but didn't break it. We're, we're, we're exploring that. We don't, we haven't--

Harran

I see.

Other

-- and so, just based on her statement.

Harran

But you know, right, that's -- like pentane, though, the hexane, that'd go pretty quick. It really burns fast.

Other

And you're saying the pentane is normally used in the lab?

Harran

Yeah, we use hydrocarbons for lots of things.

Other

And it may have been the product in place of hexane?

Harran

What's that?

Other

Could it have been the product in place of the hexane that she's referring to?

Harran

It could have been. See, she -- I haven't heard -- so all I knew. I knew the procedure she was doing, and none of that called for any hexane.

Other

Did it call for pentane?

Harran

Well the reagent's in pentane. It's dissolved in pentane. So that's where the pentane comes from. But you guys are, she saying that there's a separate container of just hexane, and that that made it worse.

SPEAKER

COMMENTS

Other

Yeah, the people that--

Harran

Which I didn't know, so--

Other

The investigators that interviewed her obviously are not chemists, so the specificity that she identifies here in this bullet point -- there was also a chemical hexane, and it spilled--

Harran

That's how they interpreted it. Now--

Other

The peace officers are trained to take written documentation of exact statements and then incorporate that into the report, which is why state law allows peace officers to take third-party hearsay statements and get 'em on the record. So these gentlemen, or investigator, were taking their notes and memorialized it in their report, and she's very specific about the product and it spilling. So that implies or states a liquid, not a gas.

Harran

One thing I -- did she have a chromatography column also in the hood? Sometimes -- you know, we'll do several things in a hood -- and if she had run a column recently, uh, she may have some hexane _____ or chromatography solvent. We use it a lot as a chromatography solvent.

Other

Okay.

Harran

And maybe that was there, uh, as well.

Other

Sure. But as you stated earlier, the, the safety practice would have been: prior to her using a pyrophoric that she would remove any flammables from the hood.

Harran

Yeah.

Other

And she's very specific that it was, that it was there.

Harran

Now does, is she specific it was that same hood, or was she moving around, you know, trying to get the fire out and, you know, the hood next to it or something?

Other

Don't know. And that's, that's a good question.

Harran

I don't know either.

Other

Yeah, and she doesn't, she didn't state that to the investigators, and so, as we sit right now, it's an unknown.

CONFIDENTIAL

ORIGINAL

SPEAKER

COMMENTS

Harran

I'm just, I'm trying to think back. I know the day before, she had done a large chromatography column using ethyl acetate and hexanes as the _____. But not in her hood. It was a couple down, towards where Wei Fung was.

Other

Is that approximately where she, when you walked in the lab and saw her sitting on the ground, is that approximately where that chromatography column was?

Harran

No, um, well, it was the other way. It was the other way.

Other

I'm gonna flip over here to a floor plan.

Harran

Oh yeah, just, that's--

Other

Okay, if this is, if this is the fume hood--

Harran

Yes. Then this hood, she may have had chromatography stuff in.

Other

So the hood immediately to the east of--

Harran

Yes. She may -- like I said, I'm just guessing based upon what I remember her doing, 'cause she purified some vinyl glycine the, the week before, or the -- what, what day was the day she was, what day of the week was it? Was it a Monday? I can't remember.

Other

Oh, I can, I'll take a look. It was, uh, well, it was the 29th was the date of the accident. And I'm gonna go to my phone here and look at the calendar and see if I can't, uh, can't come up with--

Harran

See, I don't wanna, I don't wanna get confused.

Other

No, I understand.

Harran

I know that she -- with everyone in the lab, I keep track of what they do in terms of chronology but not a day-to-day. I mean, I know what they're working on.

Other

Would, would that -- if, in fact, she had done that and it was in the adjoining fume hood -- would it have been proximal to the front edge of the fume hood, or would that have been something that should have been set back?

ORIGINAL**SPEAKER****COMMENTS**

Harran

It probably would have been set back, right?

Other

So the assumption could be made that it would be pretty difficult to just brush your hand and knock it over as opposed to reach into a hood and knock it over.

Harran

Yeah. What it sounds like here is that she had something right next to what she was doing and that knocked over. But how, how would it go on her?

Other

Uh, splash, if it--

Harran

But it would just be a little bit then, wouldn't it?

Other

I don't know. And that's the -- there's a lot of unknowns at this point. But what you're suggesting is plausible, that it was nearby, tipped, splash. You said you didn't see any broken glass anywhere.

Harran

I didn't, no.

Other

Okay. Uh, by the way, the day of the week -- December 29th. was a Monday.

Harran

Yeah. So she must have done it the previous week, this column. But no, that was -- it was just before Christmas then.

Other

Okay. Another element here that we have to address is personal protective equipment. It's my -- we don't know whether or not she was using eye protection. We do have statements that she was wearing nitrile gloves. And we also know that she was not wearing a lab coat.

Harran

Which is, which is, in my opinion, that's the real tragedy. I mean, I think just a simple cotton lab coat -- I encourage everyone to wear eyeglasses and a lab coat. And I encourage it repeatedly. But yeah -- I've done this, these are young people. They got lots of energy, they don't think anything's gonna happen to them, right? They don't, right? And, um, if I don't go in every single day--

Other

I understand.

Harran

And so, that day she wasn't wearing a lab coat. But if she had, you know, you throw it off. It's loose. It falls off. You might

SPEAKER

COMMENTS

get burned a little bit, but nothing like what happened.

Other

Uh, she was working in the lab with a lab partner. Who was that?

Harran

His name is Dr. Wei Feng Chen--

Other

Chen.

Harran

--and Wei Ding.

Other

In this, in this lab environment, is she subordinate to both doctors?

Harran

Yeah. I mean, yes. Yes.

Other

So the lab doctors that I understand were wearing full PPE.

Harran

Yes, they were.

Other

And, in fact, used his own lab coat to--

Harran

To put the fire out.

Other

Uh, in, in your environment, working in your research lab, do you require the senior member in the lab to enforce PPE to the subordinates? Like would Dr. Chen have, should--

Harran

I've never explicitly told them that they would need to make other people, um -- it's a, it's a fairly horizontal structure in the laboratory, meaning I try to treat everyone the same as scholars and colleagues, coworkers. And so, no, I, I've never said to them do that.

Other

All right. Uh, the use of emergency shower. The emergency shower wasn't employed until after first responders got on scene. And, but I think Dr. Chen did use some sort of a container to pour tap water to extinguish the fire?

Harran

Yes, yes.

Other

Good call. And, but in the future we were wondering, or what is your practice with regards to the use of emergency shower? Do you stress, if you're on fire, get under the shower. If you're contaminated, get under the shower.

SPEAKER

COMMENTS

Harran

Exactly, and I've talked with Fung about this, and, uh – I know since we were in temporary laboratory space – meaning we hadn't settled into our permanent labs – we had never gone over where are the showers, when to use them. Chari's lab hood was the closest one in the room to a shower and is literally six feet away. And if she had just run under that and pulled it, I don't know, right? But, uh, but no, I had never gone over that formally with them. I just hadn't done that.

Other

Okay. Let's back up to October 30th, 2008. EH&S Lab Safety conducted an inspection. Mike Wheatley is the lab safety officer.

Harran

Okay.

Other

He performed the inspection, noted a number of violations, and on the cover sheet gave a 30-day timeline to have the violations corrected.

Harran

Okay.

Other

All right.

Harran

And I, I, I remember I wrote to him and asked if we could redo this when we moved into our permanent space, and–

Other

And that segues into the email. Got the email here, and I wanted to just review it with you quickly.

Harran

Okay.

Other

Essentially, we've got on November 5th. November 5th he sends you an email asking to meet regarding the violations and the report. You reply to him on the 12th "can we wait until we get to the fifth floor," essentially?

Harran

Yeah.

Other

Okay.

Harran

'Cause it was like a week away. At that time, it was supposed to be within a couple weeks. We, I'd arrived here in the summer. I anticipated by September my labs would be open, the new ones, and it just, it didn't happen. And, uh, so–

SPEAKER

COMMENTS

Other

And then a follow-up email dated November 13th, Michael replies to you regarding the waiting until you move: "That should be no problem. When your labs do relocate to the fifth floor area of the mall side building, I can get together with you. Please keep me posted as to when your lab relocates and settles in."

Harran

Right, right.

Other

What is your interpretation of this? How do you see, is this permission to not clean up, or what is your permission—or your take on this email?

Harran

Um, really just that. That we would, we would re, um, inspect, I guess, the word would be, when we got to the fifth floor. Because, um, see and I, you know, the department here is – the space that I was occupying on the fifth floor wasn't designed for us. It's too small, there wasn't enough – we use a lot of solvent on a routine basis. That's what we do. There wasn't places to store it in that, enough places to store it. And we should have been, I guess – if I, so it's my fault. I, we should make provisions to store things properly all the time, no matter where we are. But I kept thinking week to week to week: well, we're just, we're gonna go, we're gonna go, we're gonna go. And uh, and–

Other

Uh, you, you said the space on the fifth floor was too small for your operation.

Harran

No, the fourth floor.

Other

Fourth floor. Okay, that's what I–

Harran

The fifth floor is beautiful, and if we designed – it's just appropriate for what we do.

Other

You have enough space now for storage of materials?

Harran

Yes, yes. Exactly. Design space for it, so–

Other

Design space?

Harran

–yeah.

Other

Each individual lab has its own PI assigned to it, primary

SPEAKER

COMMENTS

investigator?

Harran

No, that's me. I have, I control all the labs.

Other

You, you have all the labs?

Harran

Yes.

Other

Understood. If you could think back to Monday, December 29th, 2008, we would like to build a timeline for, for your actions on that day.

Harran

Okay.

Other

Let's start with from the time that somebody in the lab calls 911 to summon assistance for Sanji. What, take us from, take us from, I don't know, three o'clock forward.

Harran

Okay, so, um--

Other

Let me refer to the cab report and give you the exact dispatch time, and we'll go forward from there. Uh, the call came down to UCPD dispatch at--

Harran

Just before three, right?

Other

Yes. 2:57. So--

Harran

So that was before I knew anything.

Other

Okay

Harran

So that was happening on the fourth floor. I was here on the fifth floor. My personal involvement in -- so I wasn't looking at the clock, so I don't know the exact time -- is Wei Ding came to that window right there, and he knocked on the window, and he said, "Chari's burned." So I ran outside, and we ran down to the fourth floor together. We went into the laboratory, and that's when I saw her on the floor in the condition she was. But at that point, he had already called 911. And uh, and that had all transpired. And Chari was, you know, she was in shock, shocked, she was shaking. I asked her what happened. She didn't tell me much. She just said there was a fire, and she kept asking, "where are they, where are they, where are they?" And asking Wei Fung to keep pouring water on her. She wanted water on her arms, and she was holding her hands out like this,

SPEAKER

COMMENTS

and the skin was separating. It was awful. And uh, um, and then, um, so I was maybe only there five or six seconds, and then I could hear in the distance sirens. And so I ran down the stairwell to the road, and then pretty much everyone pulled up kind of simultaneously. And I tried to get the paramedics, tell them where it was and where they needed to go. And then they had to do certain things, I guess, before they would go in the building. So they were stopped, and they were talking with the Fire Department. They didn't want to go into the building. And so then I ran back upstairs to see how she was doing, and then when they weren't with me, that upset her a little bit more. She was like, "where are they, where are they?" So I said I wanted to stay with her, so Wei Ding went downstairs. And then within a few minutes, they, they were up there.

Other

So it was Dr. Ding that came and knocked on the glass?

Harran

Yes, exactly.

Other

At any time, was Sanji alone in the lab?

Harran

No, she was with Wei Fung.

Other

With Dr. Fung.

Harran

Yeah.

Other

Okay. Uh, let's see. So as, as this incident unfolds -- she's being treated, she's transported--

Harran

Yes.

Other

Uh, we've hazardous materials teams that are coming in to assess the lab and render it safe, etc.

Harran

Right. And when I got back, so I went to the ER and I stayed. I talked to her family, to her sister, to her roommates. I talked to the case worker down there. Uh, let's see, and then I came back to the department to see what was going on with Wei Fung was very upset when I -- this really had traumatized him -- so I wanted to see how he was doing. And then when I got back to the lab, there was a very large group of firefighters waiting for someone to do something about what was left in the lab. They needed to certify that it was safe. And then, that's when I went in and finished the experiment, and uh--

SPEAKER

COMMENTS

Other

About what time was that?

Harran

I don't know. Uh, it was getting dark. I don't know the answer to that. So I finished the experiment, and we -- yeah, and then pretty much everyone, everyone cleared out at that point. It started to calm down. And then I went home.

Other

Okay. Did anybody challenge you about going in and completing the experiment, like "don't do it."

Harran

They asked me to do it. They, they, they requested I do it.

Other

Okay. Do you remember who did that?

Harran

Uh, one of the Fire Department folks.

Other

Okay.

Harran

And then I had county people, I guess -- I don't know their titles, per se, but -- EH&S from UCLA, Fire from the City, they, and they were watching me finish this experiment, and they asked me to do that.

Other

Okay. There, there was a point that UCLA Deputy Fire Marshall Chris Lutton stated that he advised you that this was gonna be locked out, tagged out as an accident scene.

Harran

Yeah, right.

Other

He states that he -- somewhere around the time that LA County Health HazMat was to go in -- that he told you that, that this was gonna be a locked out, tagged out accident scene investigation. Do you recall that?

Harran

Yeah. I know that they were gonna change the locks, and he said we wouldn't have access to the room. I don't exactly when.

Other

Okay.

Harran

Um, he certainly told us that. And actually, so we had a, we had other discussions about later that night, so anyway go ahead.

Other

Okay.

Other

Was that first contact with you after you had done your--

SPEAKER

COMMENTS

Harran See I don't know. I mean, there was a whole bunch of people there.

Other No, no. What I'm saying is you said you completed the experiment?

Harran Yes.

Other Originally you were saying at that point, then they came in and did a cleanup and you left for the night?

Harran Yeah, I left -- see I don't know exactly what time. I have no idea. Really.

Other Okay. The first contact where he advised you that it was going be locked out?

Harran See I don't know exactly when that was, whether it was before or after I did what I did in the laboratory, or -- I just don't -- the chronology's a little blurred.

Other That's fine.

Other At some time between 7:30 p.m. and 8:30 p.m. on the 29th of December, Deputy Lutton locks the exterior door to 4221 -- just locks it with the existing lock set--

Harran Right.

Other And I'm pointing to a diagram here.

Harran Yeah.

Other And then he locks this door. He proceeds downstairs to take off his gear, make some phone calls. He comes back, and he finds Dr. Chen and Dr. Fung handling the patient's clothing and handling the flammable liquid containers that are stored--

Harran Yeah, there's their hood there, right. There's many of these, and so -- again, this is my fault -- so I asked those guys as things were winding down-- I, we were supposed to keep access to this room, which is where they had desks. And this door is open. I asked them to clean up. I said, you know-- And there was like tons of these 20-liter drums--

Other Yes.

SPEAKER

COMMENTS

Harran

There was many of those on the floor by, on the other side of -- so Chari was here, they're over here -- right? And so I said, you know, guys -- 'cause this something we had talked about routinely. They gotta -- when they're empty -- they gotta get rid of them, right? So there's a bunch of empties around there. But the Fire Department thought they were full. And uh, so I said, you know, we gotta clean this up. And um, so that's my fault. I should've told them don't do anything until after.

Other

All right.

Harran

But there was a, the police were, you know, there's a timing thing here, um, about the coring changes and all of the -- I don't know, I had gone home. But Wei Ding and Wei Fung, which were just doing really what I asked, they said that they did this around eight o'clock, something like that -- or eight or nine. And they took just empty drums to the dumpster. And I don't know what they were doing with her clothing -- I hope nothing, but-- But I know, um, then they went home too, so, you know--

Other

Okay.

Harran

And then, in the morning, certainly every--all the locks had been changed, and I couldn't get in the room.

Other

Right. Yeah. So you believe that Dr. Chen and--

Harran

Ding.

Other

Ding.

Harran

Yes.

Other

--were the only two that did any cleaning in that lab?

Harran

Yes. Yeah -- to my knowledge, yes. Exactly.

Other

Okay. I'm gonna flip over here to a supplemental report that I prepared on December 30th, the day of our investigation. Deputy Lutton, the night of the incident, at some point before he left the scene, photographed lab 4221, and the morning of the 30th, during our investigation, he pulled me aside and said, "this lab has been cleaned up." And he pointed out a number of things that were different from the night before.

SPEAKER

COMMENTS

Harran

Right.

Other

And given the time frame from the night of the 29th, there's that half-hour or hour window. We are questioning whether the cleanup before and after could have been accomplished within that half-hour to an hour or if it was something that occurred later that evening. And so I want to show you some photographs, this is before--

Harran

Okay.

Other

This is before the blue containers, five gallons.

Harran

Okay.

Other

This is after.

Harran

Okay.

Other

The hood before, the night of the incident.

Harran

Okay.

Other

The hood after. We see some things had been moved around.

Harran

Well but remember, I -- so that was me.

Other

Okay.

Harran

I was doing that. So as I was finishing up her experiment, which took time, I, I cleaned up. You know, I just -- and got rid of things that could have been dangerous.

Other

Okay. The night of. The morning of the investigation, that container's missing.

Harran

Yeah, see these have been, those have been picked up. And that was, that's our fault. We shouldn't have touched anything.

Other

This is something that we needed to explore with you. There were six doors that Deputy Lutton ordered lock sets changed on, and this is one of them. This is corridor door leading from 4221 into the corridor.

Harran

Okay.

SPEAKER

COMMENTS

Other

It has an inactive leaf.

Harran

Yes.

Other

With two flush bolts — one on the top, one on the bottom.

Harran

Yes.

Other

Okay. Deputy Lutton states that before he left, after the lock sets were changed, he checked them all, and that they were locked.

Harran

Yes.

Other

The morning of the investigation, we get there, and he goes to check this handle, and is able to pull the door open without — even though the handle's locked. Uh, there's no damage to the door strike or to the lock set. The flush bolts, top and bottom, at some point were disengaged, and we're not — we're just exploring this. We're trying to—

Harran

I have no—I have absolutely no idea.

Other

Okay, and it begs the question, did somebody else go in that night later and do some more cleaning? We don't know. We're just exploring it.

Harran

I don't know the answer to that.

Other

Okay.

Harran

I certainly hope not, but—

Other

Right. And like you said, you went home.

Harran

I went home, I, and, and, see I don't — this is weird, because— And I called the Fire Department. I couldn't get in. We couldn't get in, at all. And we were anxious to, to get in.

Other

Right. That's how—

Harran

But that, but it was open that morning?

Other

It was, he did a reinspection—

Harran

So was it the locksmith that—

SPEAKER

COMMENTS

Other

The locksmith did not touch the flush bolts, as it, to, as I understand it. All he did was change out the, the lock sets. He didn't - and so, that's an issue that we're, we're just exploring during the interviews.

Harran

Okay, okay.

Other

Um, can you tell me again why the lab was cleaned by the doctors? Can you tell me why it was cleaned?

Harran

Because I asked them to.

Other

Okay, the thought behind cleaning it?

Harran

Was, why I have all those drums there. I mean, it was something, you know - I just wanted to get all those drums out. It was my fault. I shouldn't have it done. And it didn't relate to the accident, but it just looked bad. You know, there was all these drums laying around, and so-

Other

Okay. Uh, one of the-

Harran

You know, and I didn't tell them to do it immediately, but they're good guys. They do, they do what I ask them to do, and so I should have shut my mouth and I didn't.

Other

Uh, this is an emergency contact sheet for Ms. Sanji, okay?

Harran

Yes.

Other

This uh, this is from her patient care file from Grossman Burn Center? You're listed as one of the contacts.

Harran

Mm-hm, mm-hm.

Other

Have you had any contact with the family?

Harran

Uh, yes.

Other

Okay. Uh, can you share with us what was discussed or-

Harran

Well just her sister.

Other

Okay.

Harran

And uh, and I just described to them what I thought had happened, and I tried to explain to them the type of science she

CONFIDENTIAL

ORIGINAL

SPEAKER

COMMENTS

was working on, the project she was working on, and just in generalized terms. And so it was--

Other

So you, you've had one contact with the sister since the incident?

Harran

Yes, and then uh, there was a funeral here in Los Angeles. I went to the funeral and uh, and offered my condolences to the father. The mother and the -- it's a Muslim funeral, so the female and males are separate, and you don't have any contact -- so I didn't see the sister and the mother at that time.

Other

Did you have any conversation with the father?

Harran

Not, not, no.

Other

Uh, any further conversation with the sister?

Harran

No.

Other

So you just had -- was it the night of the incident that you spoke with the sister?

Harran

Yeah, from, and she was in the Boston at the time, so--

Other

It was via phone?

Harran

Via phone, yeah. And then after that -- so when, several days after, I went to Grossman twice. Once I didn't see her, and then the second visit I went and saw her.

Other

Have you, since the, since the accident, I imagine you've had some meetings and discussions on campus here, is that correct?

Harran

About the--

Other

The accident.

Harran

Many. Many, many, many.

Other

Okay. All right. When was Sanji hired?

Harran

October. October 13th, I believe, was her official first day, I think.

Other

Okay. Uh, what was her highest degree that she, that she had?

| SPEAKER | COMMENTS |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harran | She had a bachelor's degree from Pomona College? |
| Other | Okay. Was she also enrolled here at UCLA? |
| Harran | Uh, no. Not at the time, no. She was working with us. |
| Other | In lab safety, or in lab operations regarding safety, do you conduct your own research into what's safe or do you defer to EH&S for the safety requirements or guidelines? |
| Harran | We defer for very general things, and we train for very specific things. So things that are specific to our laboratory, senior people are familiar with them, and they are helpful in guiding new people on to how to properly use our apparatus and our chemicals and things like that. |
| Other | Okay. Do you personally consult any state laws, fire code, anything like that or, with regards to safety in the lab and operations? |
| Harran | Not actively. |
| Other | Okay. One of the things that we have been exploring in this is -- and we touched on it earlier -- was when you have a syringe with pyrophoric chemicals in it and you withdraw it from the vial, it's open to atmosphere, and then it forms a crust rather quickly. And the practice that we've found on other, on another UC campus is their personnel employ a stop cock directly on the luer lock portion of the syringe. |
| Harran | That would be okay for a large scale. On a small scale, that'd be really impractical, because then your air and measurements would be much more than tolerable, so-- |
| Other | Okay. |
| Harran | But it could be on a, on a larger system. But, you know, you're still gonna -- as you, well you could, you could work, and I guess you could empty out the needle, and then turn your stock-- Yeah, we, we do not employ those types of more intricate needle assemblies. We don't-- |
| Other | And when you say larger experiments, types of quantities, what are we talking? The difference between-- |

SPEAKER

COMMENTS

Harran

Uh, a few hundred microliters would be typical. That would be an exploratory experiment. Chari was doing a scale, which is, you know, tens of milliliters, and so, uh—

Other

Okay. Would you consider that a large-scale quantity as opposed to—

Harran

Not really. She was still on the pretty small end.

Other

Small end?

Harran

Yeah, it was actually quite small. It was a few grams of potential product, but, um, you know, we can make hundreds of grams at a time at, in, in some stages.

Other

So 60 ccs, 50ccs of t-butyllithium is not considered larger scale? It's considered standard?

Harran

I would, I would call it moderate scale.

Other

Moderate?

Harran

Yeah, yeah.

Other

In your opinion, should she have used the double-tip method? In your opinion. I mean, given the volume. The manufacturer recommends—

Harran

I would have.

Other

Okay. Do you have any documents or anything that you would like added to the investigation case. We've, uh, we've done our work to gather a number of things.

Harran

Okay.

Other

But do you have anything you wish to add?

Harran

Um, not, not any documents per se, just—

Other

Okay. We're gonna add your sketch.

Harran

Sure, sure.

Other

And uh, and then we'll do a supplemental report. Do you have anything else you'd like to ask us, or want to discuss?

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ORIGINAL

SPEAKER

COMMENTS

Harran

No, I, I, no. I uh, again just to say that this is not how I wanted to start out at, at UCLA.

Other

I understand. Where did you come from before UCLA?

Harran

Uh, University of Texas. Southwestern Medical Center in Dallas.

Other

And are you working on a specific research endeavor, or is it just overall, just general research here at UCLA?

Harran

Oh yeah, we have very specific projects we're interested in, so—

Other

Understood.

Harran

Yeah.

Other

Okay, uh, Steve, any further questions?

Other

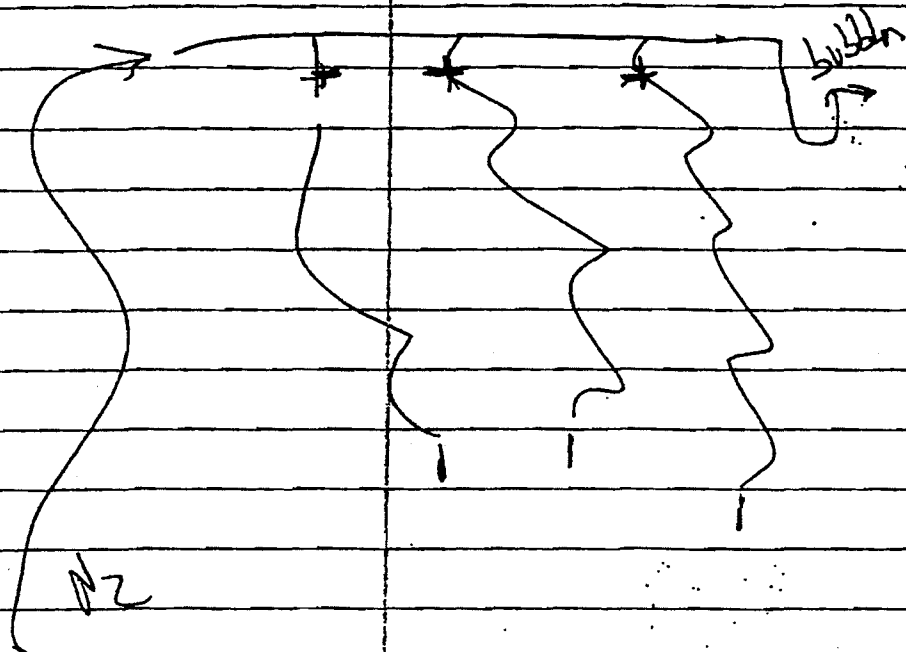
At this time, I don't have any. Thank you.

Other

And Dr. Harran, we're gonna end our interview here. It's 10:06 hours.

Harran

Okay. Thank you guys.



Feb 5, 2009

[Signature]

Patrick Hearn